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mental study reported by Messas and colleagues.[1] Yet from a pathophysiologic perspective, the conclusions provided by this study remain open to criticism. Moreover, this study is based on Kunzelman and Cochran's[3] in vitro study of mechanical characteristics between primary and secondary chordae, which found a greater amount of stress borne by primary chordae than by secondary chordae. Thus, Kunzelman and Cochran's statements were challenged by the in vivo investigation of Lomholt and colleagues,[4] which demonstrated that secondary chordae are more important mediators of the valvular–ventricular interaction than primary chordae, and that cutting secondary chordae adversely impairs left ventricular systolic pump performance.

Finally, we would stress that each strut chorda belongs to a given functional unit (Figure 1), anterior or posterior papillary muscle complexes (PMCs). Thus, it is mandatory to determine which PMC is involved predominantly in the tenting process, or in other words, the culprit strut chorda should be individualized. In our opinion, the management of mechanical imbalance between 2 PMCs resulting in leaflet tethering should be assumed by a selective restoration of the geometric relationships of the culprit PMC according to the annular plan[5] rather than by suppressing the principal mediators of valvular–ventricular continuity.

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doi:10.1016/j.jtcvs.2005.05.038

Reply to the Editor:

Dr Aazami offered several criticisms of our work:

First, the chordal cutting approach was associated with the coronary artery bypass graft (CABG) procedure. The rationale for that is widely documented. Indeed, several reports have demonstrated that residual mitral regurgitation (MR) after CABG is associated with more frequent episodes of severe angina and more severe symptoms of heart failure.[1-3] The SAVE study (Survival And Ventricular Enlargement) suggested that mild ischemic MR was associated with high mortality.[4] In addition, Trichon and colleagues[5] suggested that CABG plus mitral valve surgery might be a superior strategy in the appropriate patient population. Thus, it is obvious from our point of view that chordal cutting should be performed in every single patient with chronic ischemic MR and coronary lesions. We believe that this reported case strongly demonstrates the importance of combined medical and surgical treatment of ischemic MR and shows the value of preoperative evaluation of the degree of MR on exercise echocardiography to unmask severe MR (Figure 1, *A* and *B*).

Second, we have found that preoperative transesophageal echocardiography performed by reliable and experienced hands provides complete and reliable information regarding mitral valve dysfunction, preoperatively guiding our surgical strategy. Although the superior left atrial approach might be an effective one, in our experience, when MR was found to be due to a restrictive mechanism with a tenting phenomenon of the anterior mitral valve leaflet, the aortotomy approach always provided direct and excellent access to the basal chordae attached to the center of the anterior leaflet. Four procedures have been done so far using this technique. We did not encounter any mitral an-

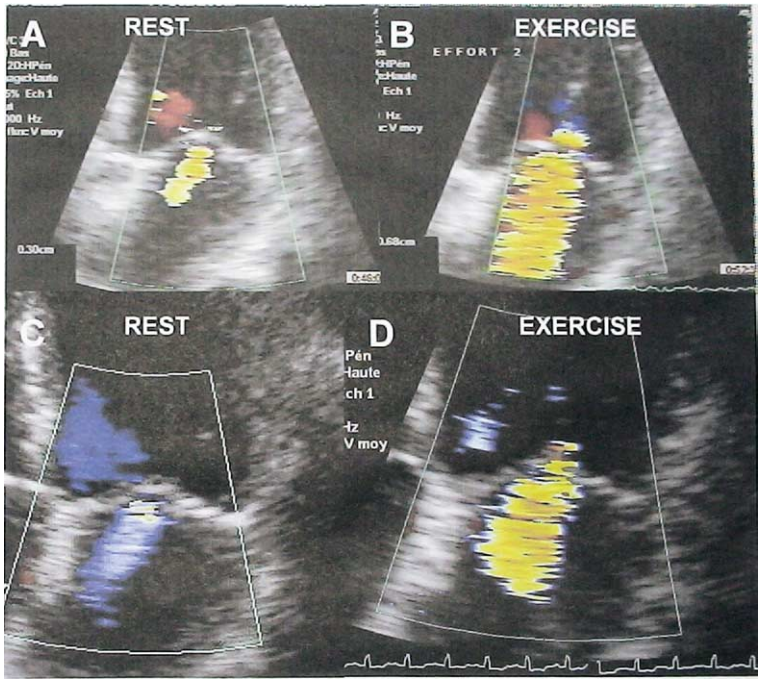

Figure 1. A and B, Preoperative 2-dimensional echo analysis. A, Anterior leaflet angulation at the basal chord insertion with apical tenting relative to the annulus, bent anterior to the leaflet base, and moderate MR at rest. B, Severe MR on exercise. C and D, Follow-up 2-dimensional echo analysis. C, Normal mitral coaptation at the baseline without anterior leaflet bend or color Doppler MR despite important left ventricular dilatation. D, Mild MR on exercise.

nulus distortion or perioperative morbidity as reported by Dr Aazami.

Although the findings of Lomhlot and associates[6] contradict the statements of Kunzelman and Cochran,[7] the results of Messas and colleagues[8] are more consistent with the major role of stress generated by primary chordae in comparison with the secondary ones. In addition, the intact marginal chordae continue to prevent leaflet prolapse or failure and can, theoretically, continue to maintain left ventricular function through chordal continuity as a benefit of valve repair as opposed to replacement.[9,10] In our experience, the chordal cutting procedure did not impair the midterm (3 years' follow-up) left ventricular function, as shown by the absence of MR at rest and mild MR on exertion (Figure 1, *C* and *D*).

Finally, this report has reopened the debate regarding a very difficult question that continually challenges cardiologists and surgeons. Indeed, the optimal surgical treatment of ischemic MR in patients with varying degrees of MR and coronary artery disease is controversial. The complex pathophysiology and heterogeneous clinical presentation of this group of patients could be an explanation for this controversy. The answer could be provided by wide, controlled, randomized studies comparing CABG associated with mitral valve plasty by chordal cutting with or without annuloplasty.

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Early anticoagulation after aortic valve replacement with bioprostheses: Time to abandon it?

To the Editor:

According to the American College of Cardiology/American Heart Association (ACC/AHA) Guidelines for Valvular Heart Disease,[1] a 3-month-long program of anticoagulation therapy is recommended after valve replacement with tissue valves. On the contrary, a recent study carried out by the Cardiothoracic Surgery Network (CTSNet) Valve Technology Center, "The Anticoagulation Therapy and Valve Replacement Study,"[2] has outlined that the practice tends to diverge from the widely established guidelines. In fact, 80% of 726 participating surgeons prefer to adopt antiplatelet therapy in biologic valve recipients who do not have additional risk factors for thromboembolic events.

Sundt and associates[3] have demonstrated in 624 patients that anticoagulant therapy after aortic valve replacement (AVR) did not offer advantages in terms of neurologic morbidity compared with 527 patients who did not receive warfarin.

Similarly, at our institution, the policy currently adopted is to administer aspirin despite warfarin during the 3-month time interval necessary for the sewing ring to become completely endothelialized. Anticoagulants remain indicated in the presence of comorbidities that leave the patient at risk for thromboembolism, such as chronic atrial fibrillation, atriomegaly, severe impairment of left ventricular function, and ventricular aneurysms.

Nevertheless, we share the concerns raised by the CTSNet. In fact, currently there is no clear evidence that this alternative approach is free from neurologic detrimental effects. We believe that the satisfactory clinical results in terms of cerebrovascular accidents reported by Sundt and coworkers[3] cannot exclude the possibility of asymptomatic microembolization and that mere clinical evaluation might be limited.

At our institution, to overcome a potential underestimation related to sheer clinical observations, we decided to evaluate the occurrence of microembolic signals (MES) in patients after heart valve replacement surgery by transcranial Doppler. Our preliminary results in 58 patients (43 men and 15 women, mean age 69.8 years) undergoing tissue valve replacement (23 patients) versus mechanical valve replacement (35 patients) let us draw a correlation between the absence of clinical neurologic impairment (0% of neurologic complications) and the absence of MES in the subcohort of aortic biologic valve patients who received aspirin instead of warfarin in the early postoperative period (0% of MES at transcranial Doppler). On the basis of these preliminary results, we set out on a prospective clinical trial randomizing patients, after AVR, for antiplatelet versus anticoagulant early therapy. The postoperative evaluation pursued in the trial, which is ongoing, is both clinical and instrumental, aiming to detect potential clinically silent microembolization.

We believe that the positive clinical results encountered by Sundt and associates[3] and shared also by our experience need instrument-based evidence to represent a firm basis and efficacious stimulus toward reconsideration of guidelines.

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